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FAQs

FAQs

List of Frequently Asked Questions

Frequently asked questions are sorted below into seven categories and grouped according to topic.

Facts and Figures

Many questions were asked about the Central Basin, groundwater agencies, groundwater, groundwater concepts, use, and levels, and land use, topics that were discussed in presentations during Central Sacramento County Groundwater Forum (CSCGF) meetings. Section 2 discusses these topics and reviews facts and figures presented during CSCGF meetings.

General

Where is the Central geographically located?

Describe the Central Basin and its relationship to the North Basin.

Give overall statistics for the Central Basin – estimate yields, affect of contamination, projected demands.

Zone 40

Describe Zone 40 – it may not be well-understood.

How does Zone 40 compare with the Central Basin in size?

What or who is the groundwater forum?

Sustainable yield

What is sustainable yield?

What is sustainable yield and how was it determined?

What is safe yield?

Define and explain groundwater "yield," sustainable, safe, etc.

What level of confidence do we have in the sustainable yield (273,000 acre-feet/yr)? This will impact many groundwater basin decisions.

Water supply and demands

Explain water demands and needs and list the average and typical needs for various users.

What is the population in the area and the annual water consumption?

What is the General Plan Policy re conversion of irrigated ag to urban use, and how much ag land has been converted to urban uses?

How many acre-feet of Fazio water were used in 2002 and how were they routed?

How many wells are there within the basin?

FAQs (cont'd)

Conjunctive use and recharge

Define and explain conjunctive use. Include "recharge" and explain potential for success.

What is the best way to implement groundwater recharge?

When is a groundwater basin in overdraft?

Groundwater levels

How much has the groundwater level gone down, on average, in the basin?

What was the depth of the cone of depression in the Central Basin in 2002/2003?

What was the proposed depth of groundwater in Elk Grove in 2030?

How would groundwater be managed?

Many questions were also asked about how groundwater would be managed. Groundwater management options are discussed in Section 4. However, stakeholders will determine, in an interest-based negotiation process, how Central Basin groundwater will be managed within the framework of the management option they choose.

Managing the groundwater in the Central Basin and elsewhere

Who will manage the groundwater? Would they be trustworthy?

Is groundwater management going to be administered by the residents of the area (which would be preferred)?

What role (voting structure) will ag play on the governing board?

Provide a summary of basin governance for other basins in California or western states.

Participation and representation

Is it mandatory for all groups to comply? Could ag-res opt out?

Does groundwater planning protect all the interests of the participants?

Costs and cost-sharing

Who will pay for managing groundwater?

How will it be managed and funded?

How will cost-sharing by implemented to insure equity?

Will agriculture be required to cost-share for groundwater management – need an actual benefit.

Provide a summary of user charges (taxes, etc.), either M&I or well charges. What are other basins doing with respect to charges to pay for basin management?

Should the CSCGF and SGA have some shared language for consultant work, thereby providing ability to blend documents and studies in the future?

Government agencies

Why should local government agencies be concerned with groundwater management?

Will local government agencies be required to prepare a management plan for wells?

FAQs (cont'd)

Monitoring and quotas

How would groundwater levels be monitored?

What use limitations, if any, will be applied to groundwater usage?

Groundwater banking

How will credits be given to groundwater banking, if at all?

How will the plan handle groundwater banking?

What efforts are going to be included in this plan to benefit groundwater recharge?

Funding

What is required in a groundwater management plan to be in compliance with existing laws and eligible for funding?

Flexibility

What if our assumptions vary in reality?

Will groundwater management encourage development?

Concern was expressed that groundwater management would favor development and it was suggested that development could be restricted. However, land use decisions ultimately control growth. Such decisions are the prerogative of Sacramento County and the cities located within the Central Basin. Groundwater management is essential to protect the long-term viability of the Central Basin for any growth scenarios adopted by the cities and Sacramento County. Again, stakeholders are responsible for setting the parameters of groundwater management for the Central Basin. Since CSCGF includes members representing all segments of the community that have an interest in groundwater, a broad diversity of interests are represented in the negotiation process. See section 4 for a description of various groundwater management options.

Development

Will groundwater management make it easier for developers to increase/accelerate development outside the urban services boundary?

Does groundwater planning promote growth?

Will the interests of developers take priority?

Could the problem of water supply be solved by the County placing a moratorium on growth [as opposed to groundwater management]?

Does Elk Grove have enough groundwater to serve its housing growth?

Freeport Project

Why is development allowed to use groundwater in anticipation of the Freeport Pumping Plant?

What happens if Freeport water does not materialize?

Discuss Freeport Project – and relationship with groundwater.

FAQs (cont'd)

How will groundwater management affect my well?

Questions were asked about affects of groundwater management on groundwater levels and wells, whether groundwater users would incur costs, and if wells would be metered. Section 2 discusses recharge and sustainable yield; decisions about how costs might be structured will made by the stakeholders who negotiate the groundwater management plan (Section 4).

Groundwater levels.

Will groundwater pumping be cut back if the water able reaches a predetermined depth?

What effect will proposed pumping yield have on groundwater levels?

Affects on wells

How does this affect my well?

What protection is afforded ag/res uses that the groundwater won't be reduced to a level causing outages and new well drilling?

How can the county/city or Elk Grove assure current groundwater-dependent users that no further impacts occur by the approval of development in the basin?

What will happen/who will be responsible if my well goes dry?

For all existing groundwater users, particularly those with typical residential wells, what assurances are there that they will be saved from damage?

Metering

Will the groundwater management plan or governance model result in my well being metered?

Cost to groundwater users

Is this going to cost me anything?

Groundwater pumping assurances, including costs paid for continued well (s) use – who pays?

What compensation will be afforded ag/res users who have to drill wells deeper due to increased use of groundwater by developments?

How will private pumpers be affected?

What are the estimated or potential costs to groundwater pumpers (ag or ag-res)?

Will water meters or service charges be levied against current private pumpers?

The proposed plan may have an effect on the cost of water pumped. Will the plan provide investor-owned language to justify the cost increase to the CPUC?

FAQs (cont'd)

How will groundwater management address contamination?

Groundwater contamination in the Central Basin in general and specific contaminated sites were subjects of concern and many questions. Section 2 briefly discusses locations and types of contamination and a groundwater contamination investigation that will be performed to provide current information on contaminants in the Central Basin.

Contaminants and contaminant sources

Discuss all contaminant sources.

List known and potential contaminants and their potential effects.

Regarding historical trends in the health of the aquifers – what were biggest impacts (e.g., perchlorate contamination, gravel mining)?

Water quality

How will water quality be affected?

What are the water quality issues [for the Central Basin]?

How can we assure protection of our water supplies from contamination?

Who guarantees that water quality will be maintained in private wells?

What are the projected groundwater losses over the next 20 years due to contamination?

Contamination sites

What is the status of the Kiefer Landfill contamination plume?

What happens if "Vineyard Spring" wells become contaminated from the Gerber Landfill?

Where will housing at Grintline and Jackson get water when the Kiefer Landfill plume reaches their wells?

How can conservation, recycling, water purchases/sale, and water storage be used to help meet water supply needs?

See Section 2 of the Groundwater Digest.

Conservation

Include water conservation methods and its potential benefits.

Recycling

Explain remediation – methods, time requirements.

Why doesn't Aerojet put the "reclaimed water" into the Consumnes instead of the American River?

Will the plan specifically discuss reuse water from remediation efforts?

What is CSCGF's position on remediated water pumped into surface water channels?

Is it expected that this water can be treated and kept in the basin?

When will contaminated water be usable? The sooner the contaminated water is usable, the sooner it will cease to be a problem.

FAQs (cont'd)

Water purchases/sales

Why doesn't the county buy the water that farmers are selling out of the area?

What efforts are taking place to acquire additional surface water in place of adding extensive demand upon groundwater resources?

Water storage

Is there a storage problem?

How will groundwater management affect the Cosumnes River and other natural resources?

Section 1 discusses support for Cosumnes River restoration efforts as a potential advantage of groundwater management; Section 2 explains basin recharge, contains a figure showing the Cosumnes River and other rivers in the Central Basin, and discusses recharge in terms of sustainable yiels.

Effects of groundwater management

Describe relationship [of groundwater management] with Cosumnes River impacts, potential benefit.

Hydraulic connection

How can we continue to draw down upstream water in the Cosumnes River when it runs dry every year?

What protections will be afforded to maintain Cosumnes River flow?

Glossary

Glossary

Central Basin Groundwater Glossary

acre-foot
Amount of water it takes to cover an acre of land to a depth of 1 foot; about 326,000 gallons. An acre-foot can supply the annual needs of between one and two average California households.

adjudicated groundwater basin
Groundwater basin for which it has been determined by the courts who has rights to water and how much of the water.

ag (land use)
agricultural
Properties in the Central Basin of more than 5 acres, typically used for row crops, vineyards, grazing, etc.

ag-res (land use)
agricultural-residential
Small farms or residences of generally 5 acres or less.

alluvial deposit; alluvium
Clay silt, sand, gravel, or cobble deposited by rivers and streams over long periods of time.

aquifer
Geologic formation that is water-bearing and permeable and yields economically significant amounts of water to wells or springs.

aquifer system
Regional set of interbedded geologic formations within a groundwater basin.

artificial recharge
When surface water is added to a groundwater basin by human activity.

BMP
best management practice
Policy, rule, or regulation that results in greater efficiency or benefits.

BTEX
benzene, toluene, ethylbenzene, and xylene
Constituents of gasoline.

Central Basin
Common name for the central area of the groundwater basin in Sacramento County.

cone of depression
A depression of the water table surface in the shape of an inverted cone. Localized cones of depression develop around a well or wells that are being pumped. Regional cones of depression occur from long-term pumping in a groundwater basin.

confined aquifer
Has a confining layer at the top, causing the groundwater to be under pressure.

conjunctive operation (water)
The operation of a groundwater basin in combination with surface water. Groundwater is stored in the basin for later use by intentionally recharging the basin during years of above-average surface water supply.

conjunctive use (water)
Coordinated management of surface water and groundwater supplies to increase the yield of both. Conjunctive use is intended to increase total supplies and enhance water supply reliability.

conservation reserve (land use)
Land along waterways and in other areas that is set aside and protected.

consolidated rock
Mineral particles of different sizes and shapes that have been welded together into a solid mass by heat and pressure or chemical reactions. Examples of rocks important for groundwater include limestone, dolomite, shale, siltstone, sandstone, and conglomerate.

contaminant plume
An elongated body of groundwater containing contaminants that originate and migrate from a source within subsurface soils, rocks, or unconsolidated deposits.

contamination (water)
The addition to water of any substance or property preventing the use or reducing the usability of the water.

CSCGF
Central Sacramento County Groundwater Forum
Group of stakeholders formed under the aegis of the Water Forum Successor Effort to develop recommendations for Central Basin groundwater.

CVP
Central Valley Project
Federal construction project begun during the Depression. The CVP stores and transports surplus water from the Sacramento and San Joaquin rivers for use primarily in the Central Valley.

Central Basin Groundwater Glossary (cont'd)

deep percolation
The percolation of surface water through the ground and beyond the lower limit of the root zone of plants into a groundwater basin or aquifer.

DEIR
Draft Environmental Impact Report
Document required by the state that assesses possible impacts of a project on the environment.

dual-purpose well
Groundwater well that is used for both extraction and injection.

DWR
California Department of Water Resources
State agency responsible for managing the water resources of California in cooperation with other agencies to benefit California residents and to protect, restore, and enhance the natural and human environments.

Fazio water
Permanent supply of 15,000 acre-feet of water from the CVP for Sacramento; so-named for Senator Vic Fazio, who supported legislation to obtain this supply.

General Plan
Document used by Sacramento County and incorporated cities to plan for providing infrastructure for future development within identified boundaries.

geologic formation
Set of consolidated rocks or unconsolidated deposits that forms a unit and may be dominated by a certain type of deposit or rock, or may have some other common feature.

groundwater
Water that is stored in the pore spaces of consolidated rocks or unconsolidated deposits found in the saturated zone of an aquifer.

groundwater basin
Flow system that has a surface and a subsurface area with defined boundaries, and materials (rocks or unconsolidated deposits) that can store water.

hydraulic connection
When surface water and groundwater are connected (allows groundwater to be recharged). Can also refer to a connection between two aquifer zones.

hydrogeology
Science that deals with subsurface waters and related geologic aspects of surface waters.

hydrology
Science that deals with the properties, distribution, and circulation of water on and below the earth's surface and in the atmosphere.

in-lieu recharge
Indirect method of recharge – groundwater users use excess surface water in lieu of groundwater.

interbedded
Beds lying between or alternating with others of a different type.

Joint Powers Agreement
Two or more public agencies may, by agreement, jointly exercise any power held in common.

JPA
Joint Powers Authority
Organization formed to carry out a Joint Powers Agreement.

land subsidence
The lowering of the natural land surface in response to a lower groundwater level. Caused by removal of groundwater and subsequent consolidation of certain soil types.

mgd
million gallons per day

M&I (land use)
municipal and industrial
Urban or industrial development.

mountain front recharge
When precipitation and runoff enter geologic formations that are exposed along the front of mountains and this water travels into aquifers via the formations.

native lands (land use)
Undeveloped land (i.e., not ag, ag-res, M&I, etc.).

NDMA
N-nitrosodimethylamine
Chemical used in the production of 1,1-dimethylhydrazine for liquid rocket fuel, and for a variety of other industrial uses.

overdraft
Over a period of years, withdrawing from an aquifer (on purpose or inadvertently) more water than the amount of water recharging the basin.

PCE
perchlorothene
Colorless, odorless, nonflammable organic compound often used as a solvent and for dry cleaning and removing grease from metals.

Central Basin Groundwater Glossary (cont'd)

perchlorate
Primary ingredient in solid propellant for rockets and missiles, and is a common contaminant found in groundwater supplies in and around aerospace and military facilities.

percolation
Movement of water through small openings (pore space) within a porous material.

permeability (groundwater)
Ability of a rock or unconsolidated deposit to transmit water through spaces that connect between grains. The size and shape of the spaces controls how well water transmits, or "flows." Usually expressed in millidarcies.

porosity
Volume of open pore space between particles of clay, silt, sand, gravel, or cobble in a geologic formation, usually expressed as a percentage.

POU (American River)
place of use
Location for use of City of Sacramento's American River water entitlement.

Proposition 218
State of California legislation that requires voter approval prior to assessment of any new fee or tax.

reasonable and beneficial use
Refers to Article X, Section 2, of the California Constitution, which requires that all water use be reasonable and beneficial. Beneficial uses include irrigation, domestic, M&I, hydroelectric power, recreation, and protection and enhancement of fish and wildlife. Reasonable use can be defined by what it is not: waste or unreasonable use. Reasonableness is determined based on circumstances and can vary according to the California Supreme Court.

recharge (groundwater)
Water reaching the saturated zone of an aquifer where it is available for extraction.

Regional Water Quality Control Board
State of California agency that is set up to preserve, enhance, and restore the quality of California's water resources.

remediation (groundwater)
"Cleanup" of contaminated groundwater by a variety of methods.

safe yield
Maximum quantity of water that can be withdrawn from a groundwater basin over a long period of time without developing a permanent condition of overdraft. Sometimes referred to as sustainable yield.

saturated zone in an aquifer
Zone with only water in the interconnected spaces.

SCWA
Sacramento County Water Agency
County agency responsible for water supply planning.

semiconfined aquifer
Confined by upper layers having permeability that varies from low to moderate. Thus, groundwater moves through these confining layers, but moves slowly.

semipermeable (groundwater)
In a formation, having small preferential flow paths through mostly impermeable material.

SGA
Sacramento Groundwater Authority
The groundwater management element of the Water Forum Agreement led to creation of the Sacramento North Area Groundwater Management Authority, which was later renamed the SGA. This agency is responsible for managing groundwater in the north area subbasin of Sacramento County.

SRCSD
Sacramento Regional County Sanitation District
Agency responsible for large conveyance and treatment of wastewater within the urbanized area of Sacramento County.

stakeholders
Persons, agencies, groups, or other parties who have a "stake" in a common issue, project, etc.

subsurface water
Water under the surface of the earth.

surface spreading basin
Basin above an aquifer that is filled with water in areas of good percolation.

surface water
All waters on the surface of the earth, including fresh water (streams, rivers, lakes) saltwater, ice, and snow.

Central Basin Groundwater Glossary (cont'd)

surface water recharge
Recharge from rainfall that percolates down to aquifers, and from rivers and streams that may not be connected to the water table. Surface water is always recharging groundwater. One result of this continuous recharge is that groundwater can be contaminated from land use practices at the surface.

surplus water
Water in excess of environmental use and state and federal water projects.

sustainable yield
The amount of groundwater that can be safely pumped from a basin on a long-term average annual basis without damaging the aquifer.

TCE
tricholorethene

Nonflammable organic compound used as a solvent and for dry cleaning and removing grease from metal.

Title 22
Section of the California Code of Regulations that regulates water quality for a variety of uses.

transition zone
Zone between the unsaturated and saturated zones of an aquifer.

unconfined aquifer
Aquifer without a confining layer at the top; therefore, a corresponding lack of pressure allows the water level to rise or fall.

unconsolidated deposit
Material consisting of particles of rocks or minerals ranging in size from clay to boulders. Examples of unconsolidated deposits important for groundwater are clay, silt, sand, gravel, and cobble (in order of increasing grain size).

unsaturated zone in an aquifer
Zone that lies just below the land surface and contains both air and water.

volatile organic compounds
Any carbon-based compound that volatilizes at atmospheric conditions.

Water Forum
Diverse group of business and agricultural leaders, citizen groups, environmentalists, water managers, and local governments in the Sacramento region formed to develop and implement a plan to ensure the region's water supply needs to 2030 while preserving the ecosystem of the Lower American River.

Water Forum Agreement
An agreement negotiated over 6 years by a diverse group of stakeholders in the Sacramento region. The agreement has two co-equal objectives: 1) to provide a reliable and safe water supply for the region's economic health and planned development through 2030, and 2) to preserve the fishery, wildlife, recreational, and aesthetic values of the Lower American River.

Water Forum Successor Effort
Group formed after the Water Forum Agreement was signed to carry forward the agreement and address changed conditions. Members of the group represent stakeholders who signed the Water Forum Agreement.

watershed
Region that is drained by, or contributes to, streams, lakes, rivers, or other bodies of water.

water table
Level in the saturated zone of an aquifer where the pressure from the air and the pressure from the water are equal. In an unconfined aquifer, the water table is the top of the saturated zone and the bottom of the unsaturated zone.

wet years
Years with greater than average precipitation that results in more surface water in streams and rivers and more deep percolation of water into groundwater basins.

wheeling agreement
An agreement that allows a purveyor to divert, treat, and deliver water belonging to another purveyor.

Zone 40
A zone in Sacramento County created by the SCWA to develop a conjunctive use program for protecting the long-term viability of Central Basin groundwater.

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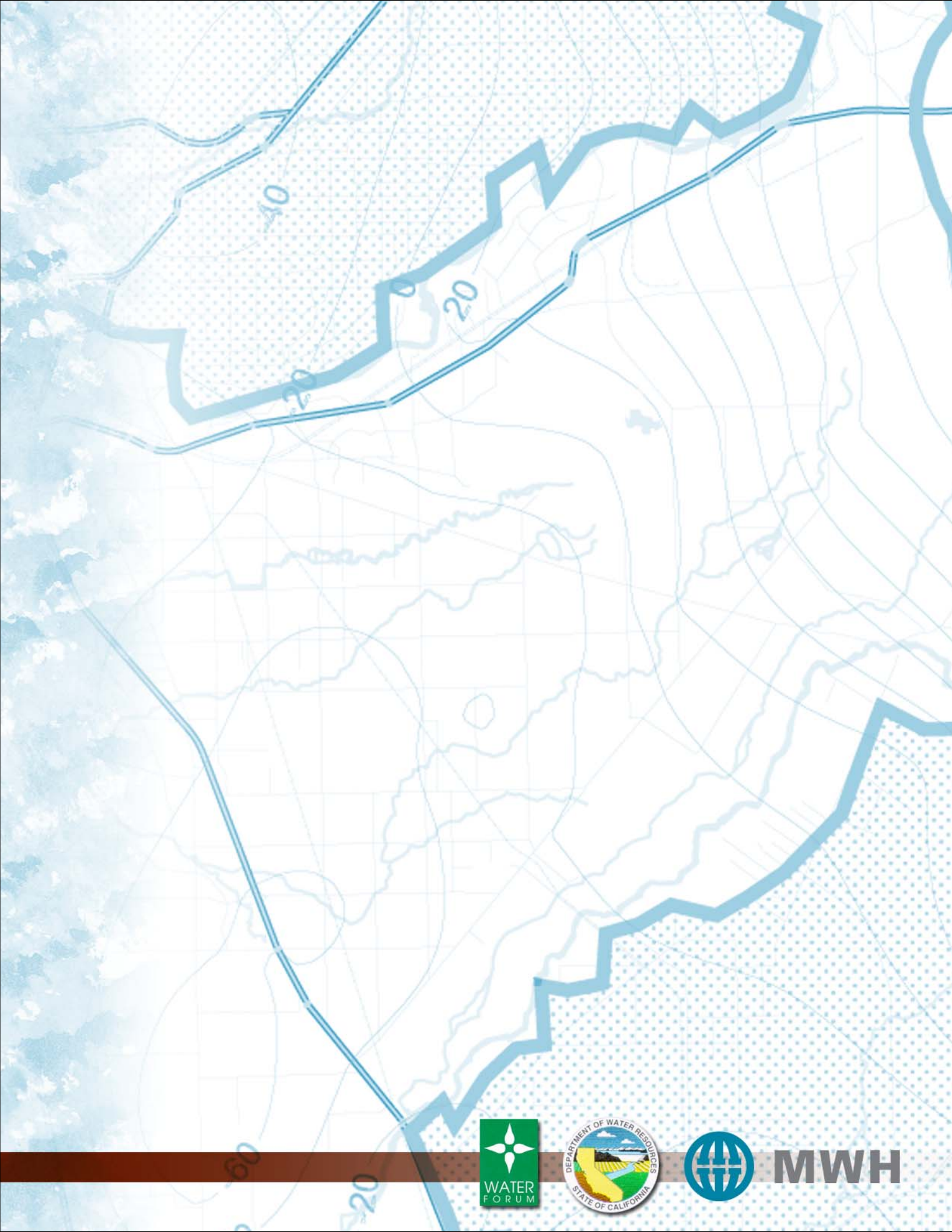
WATER
FORUM
DEPARTMENT OF WATER RESOURCES
STATE OF CALIFORNIA
MWH